

array of metal protrusions formed as metal plates connected to metal sheets by vertical posts, the metal protrusions arranged in a two-dimensional lattice, wherein the high impedance ground surface structure is a magnetic conductor surface at an RF frequency band of interest, said ground surface structure functioning as a D.C. short and as a mirror which reflects an RF field in said frequency band with virtually no phase reversal;

an array of wide band flared notch radiating elements positioned adjacent the ground surface structure, said array of radiating elements comprising a plurality of radiating elements arranged end-to-end along a common end-fire axis and spaced apart along the axis by separation distance wherein a thin gap filled by a thin layer of dielectric material is maintained between a surface of each of the radiating elements and the high impedance ground surface structure; and

a true-time-delay corporate feed network connected to the radiating elements, wherein time delay differences in contributions by the individual radiating elements to a composite array signal due to the separation of the elements along the axis are equalized by the true-time delay corporate feed network, wherein the true-time-delay corporate feed network includes a plurality of combiner/dividers and a plurality of coaxial transmission lines, wherein the lengths of coaxial transmission lines of the corporate feed network provide a true-time-delay network so that signals on receive are combined coherently and the signals on transmit coherently form a beam in the forward direction.

Please amend Claim 11 has follows:

11. (Amended) A conformal end-fire antenna for mounting on a nose cone of an aerial vehicle, comprising:

a high impedance ground surface structure, including an array of metal protrusions formed as metal plates connected to electrically conductive sheets by vertical posts, the contour of the sheets conforming to the surface contour of the nose cone, the metal protrusions arranged in a two-dimensional lattice, wherein the high impedance ground surface structure is a magnetic conductor surface at an RF frequency band of interest, said ground surface structure functioning as a D.C. short and as a mirror which reflects an RF field in said frequency band with virtually no phase reversal;

an array of wide band flared notch radiating elements positioned adjacent the ground surface structure, said array conforming to said contour, wherein said array comprises a plurality of radiating elements arranged end-to-to end along a common end-fire axis and spaced apart along the axis by a separation distance, each element comprising a